

Empowerment and Professional Ethics in Functional Context of Design, Cost, and Construction Working Teams

Ellen Lau^{*1}, Vikki Lew²

Division of Building Science & Technology

City University of Hong Kong, Hong Kong

¹Senior Lecturer, bsellen@cityu.edu.hk; ²Research Associate, lew.vikki@gmail.com

Abstract

In view of the diversified requirements arising from the organizational changes affecting knowledge workers, it is uncertain how knowledge workers are empowered and whether the empowerment process can be differentiated among working teams carrying out different functions. Although the theory of empowerment and research is well-established, there exists a knowledge gap with regard to the question of whether acting in an ethical way on the job is empowering and whether this similarly applies to knowledge workers carrying different job functions. Yet, no work has been done to determine how ethical codes fit in the empowerment process. Since empowerment can be experienced via the form of "performance expectancy or the belief in personal efficacy", an industry case approach is used to evaluate empowerment profiles in functional context of professional knowledge workers striving for high level of ethical codes laid out by professional organizations. It is contended that people are more empowered if they hold ethical values relating to those stipulated by the professional institutions. In this case, ethical principles are adopted as the structural variables to study empowerment in this research. Data were collected via a survey of professional workers in the field of cost, design and construction functions. Quantitative analysis is carried out with 138 responses using general statistical instrument and confirmatory factor analysis. The findings suggest that even within the same industry, professional workers of different functions exhibit different relationships between their empowerment profiles and the professional ethics they abide by. The results show that there are variances in the job functions. This study contributes to the literature of empowerment and the construction industry, in generating an insight that ethical value is one important denominator of empowerment.

Keywords

Empowerment; Professional Ethics; Job Characteristics; Autonomy; Construction Industry

Introduction

The codes of conduct are established by organizations to regulate the activities of members with respect to particular disciplines and job functions. In undertaking social responsibility, organizations such as professional institutions, would promote codes of conduct from which ethical values derived, and establish high level of ethical expectation from their members. Taking construction-related organizations as examples, the codes although are enforced locally, the underlining principles are compatible across countries. In U.K., the Royal Institute of Chartered Surveyors (2007), which regulates the practice of surveying, defines standard of care, a key ethical element, as "strategic advice on the economics, valuation, law, technology, finance and management of all the world's physical assets" ranging from building construction to infrastructure and property portfolio management." International Union of Architects (2006) defines the practice of architecture as "provision of professional services in connection with town planning and the design, construction, enlargement conservation, restoration, or alteration of a building or group of buildings." Chalkley (1990) points out that a professional code is the judgment on how its members should conduct themselves to ensure the protection of the public such that the interests of the public are put above those of its members and are safeguarded at all times.

Earlier research studies also identified that Asian workers hold different values and approaches to work (Yoon 2001; Kim, Triandis, Kagitcibasi, Choi & Yoon 1994; Mills 2005). This has significant implications for Western centric management concepts that are imported to a Chinese context such as Hong Kong. According to a cross-country study by Ethical Investment Research Services (2005) however, Hong Kong is among the countries least developed in

business ethics despite its reputation as a global financial hub. Although empowerment is seen as positive in western culture, it may contradict the basic values of Asian workers as the corporate culture in Asia generally places higher emphasis on compliance and obedience rather than autonomy. Yoon (2001) suggests that despite these potential conflicts, empowerment matters in Asian organizations as increased global competition is triggering off organizational changes. In the construction industry, this is even more so in recent years. These changes affects the professionals' autonomy and self-efficacy in particular for three reasons. Firstly, increasingly more complex and sophisticated construction projects demands professionals collaboration within and across organizations together with advanced skills and knowledge to solve problems. Secondly, the industry functions in a cross-functional team environment and entails significant sharing of information. Information, as described by Kanter (1977), is the foremost power tool at work. Thirdly, a professional's identity is hardly clearly defined by the organizations they are employed or by their professional affiliations in the construction industry.

In view of the diversified requirements arising from the organizational changes affecting knowledge workers, it is thus reasonable to infer that acting in an ethical way on the job is empowering. Yet, no work has been done to determine how ethical codes fit in the empowerment process. Empowerment can however be experienced via the form of "performance expectancy or the belief in personal efficacy" that better professional ethics promote. Two key questions are addressed in this research: Firstly, can empowerment be differentiated among working teams carrying out different functions? Secondly, is empowerment related to ethical principles? The findings are expected to fill the knowledge gap with regards to the moral base of empowerment.

Views on Empowerment

Empowerment is often portrayed in general publication as management tactics like delegation, information sharing and employee participation. These portrayals may have missed or oversimplified the principles underlying empowerment. Firstly, the misinterpretation of empowerment as external tactics would have missed the psychological aspect (Conger

1989) such as the "addictive motivational effect" and "increased intrinsic task motivation" on the workers (Thomas and Velthouse 1990). The psychological aspect of work has its origins in Maslow's "hierarchy

of prepotency" (1943) and Herzberg's (1964, 2003) "hygiene factors," which suggested that once a worker's security is fulfilled, extrinsic factors such as salary and benefits motivate workers only reaches a certain level. It is not clear about the extent of impact of empowerment and in what way it works and in what way it fails. Secondly, leader-member exchange theory advises that leaders are biased in the way they treat their subordinates Lawler and Thye (1999) advised that the relationship between leaders and their subordinates has an emotional underpinning and is not merely transactional. The third oversimplification lies in the inconsistency between subordinates' partition and actually being empowered. Mills and Ungson (2003) suggested that in decision-making process, participating subordinates may not actually have the power in decision-making but simply pass the information to the managers. This is not uncommon in multifunctional work context when people act in co-ordination roles. Participation without the ability to influence events would have a demotivating effect to the worker if the work content is dominated by such inconsistency.

What would impact on empowerment on an individual level in the workplace? Recent studies of empowerment offer a cultural perspective of empowerment values. Yoon's study of workers in two large organizations in Korea (2001) distinguishes that the motivational effect of empowerment is more supportive of workers' proactive behavior than the structural effect. It is noted that empowerment based on organizational status cannot sufficiently generate genuine empowerment. It is because there exerts a negative effect on self-efficacy, which is an important drive for creating proactivity and reducing fatigue. Although Yoon's study is conducted in a hierarchical-minded culture, the result shows that high status is not consistently linked to higher empowerment outcome. Yoon suggested that the negative effect could be due to the lack of autonomy for high-position workers. Randolph and Sashkin (2002) analyzed from existing research that successful implementation of empowerment in multinational setting need to address cultural differences in terms of power distance, individual-collectivism, uncertainty avoidance and assertiveness. Cross-culture studies of service workers by Hui, Au and Fock (2004) found that power distance moderates empowerment effectiveness of worker's job satisfaction. It requires a moral-base to add meaning to it. In culture emphasizing power distance in the work context, workers willingness to exercise the

discretionary power for better service is a prerequisite for the workers to be more satisfied about their empowered jobs. Whichever the case, we attempt to restrict to 'taking power' in this study and investigate how professional ethics would impact on empowerment.

The Derivatives of Empowerment

Empowerment is considered to be a social process in which power is seen as influence and control. Two concerns have been raised about the derivatives of empowerment in the management literature, 'taking power' and 'granting power' (Quinn and Davies, 1999). Kanter (1977, 166) defined power as the "personal transaction" to "get things done, to mobilize resources, to get and use whatever it is that a person needs for the goals he or she is attempting to meet." Kanter (1983) identified three types of "tools" that define power in the workplace: information, which includes expertise; resource, which includes space, time, staff; and support, which includes guidance and feedback to enhance task effectiveness. In the early theory on power, French and Raven (1959) identified five bases of personal power in the workplace: reward, coercive, legitimate, expert and referent. The more recent theory on empowerment suggests that although power is a scarce commodity in the work place, it is not restricted at the senior level of the hierarchy. Therefore, the above points to 'granting power'.

With respect to 'taking power', empowerment is based on "autonomy" and "allowance to have control over the conditions that make their actions possible and accomplish tasks" (Kanter 1977). An empowered worker would feel more capable of coping with challenges, whereas a powerless worker would feel they do not have the capacity to cope with challenging situations or dealing with people (Conger 1989, 18).

Spreitzer's (2007) outlines two compatible schools of thoughts on empowerment. The first school is based on social exchange and social power, meaning that empowerment is affected by the contextual conditions in work situations. Access to empowerment structures is associated with the degree of formal and informal power an individual has in the organization. The structural approach refers to empowerment as being empowered by the system, which is meant to intensify the enabling effect and to diminish the constraining effect (Giddens 1985; Kanter 1983). The other school is based on psychological empowerment. According to Bandura's (1989, 2000) theory on self-efficacy,

individuals possess self-efficacy the capability to influence the environment and shape the course of event. Self-efficacy, as a source of power, can exist at both individual and collective levels. Empowerment differs across people, contexts, times, process and outcomes. According to scholars such as Conger and Kanungo (1988), Spreitzer (1995), and Thomas and Velthouse (1990), empowerment has motivating or moderating effect, and to others it is studied as self-control (Rotter 1966; Lawler 1992), or as a form of control by others (Tannenbaum 1968).

Professionals Ethics

The ethical requirement of empowerment is particularly true of professionals. Gardner (2007, 16) suggested what constitutes a person as "professional" is a "bargain between a person and the community", and this entails a social contract for those who meet the criteria in providing certain services to a community. Professionals possess specific "knowledge, skills, practices, rules and values that differentiate them from rest of culture" and the ethical dimensions regulating the application of such knowledge and skills. Research has established that social consensus affects a person's perception on whether an act is ethical or unethical. Heider (1958, cited in Jones 1991) proposed that in an organizational setting, a person's decision may be affected by both implicit and explicit intent. At times, there may be conflicts between the individual and the corporation. The adoption of ethical codes by a corporation however does not mean ethical behaviors and changes of practice (Schwartz 2003, Cavanagh 2004). Investigation by Adams, Tashchian and Shore (2001) found that members of a company that have ethical code perceive the management and peers as more supportive of ethical behavior, workers are more autonomous in making ethical decisions and are more satisfied with decisions involving ethics. The presence of code of ethics generally contributes to the general perception. However, members could not provide specific evidence of ethical behavior.

Unlike codes established in an organization in which one is under "surveillance or regulation" of daily practice, professional codes are based on the individuals and counted on the professional's self-regulating behaviors. Abott (1983) identified five attributes of professional ethics code: (1) it leaves out the daily practice and the mundane; (2) it concerns the individuals rather than the corporation; (3)

professionals are regarded as colleagues as higher "intra-professional status"; (4) breach of professional ethics is persecuted in visible ways; (5) the obligation to colleagues, such as not getting into nasty price wars or stealing clients, or sabotaging colleagues.

In studying code application in Hong Kong, Snell and Herndon (2003) evaluated the gap between code adaptation and found that it is not too clear how actual ethical behavior is measured. This leads to variation of the requirements on ethical behaviors due to the nature of work. Man and Lam (2003) comparing professional workers in Hong Kong and in the U.S. found that the former were significantly higher in cohesiveness even though jobs are of similar complexity. The researchers suggested cultural factors such as power distance and uncertainty avoidance existing in the collectivism culture (Rowlinson et al. 2009). The research study by Snell and Herndon (2003) suggested that in more hierarchical context, management were more tolerant of individual's behavior unsupportive of practice code for benefits of the organization. And in a context emphasizing group cohesiveness, managers are more dependent on controlling rather than engaging members. In view of the cultural issues, two other factors, trust and integrity, are considered significant to have enabling effects on empowerment and exert motivating effect on individuals. Trust is generally perceived to moderate formal control and make it less complicated to achieve goals, whether the context is an organization or a relation (Heathfield 2012). When there is empowerment, there is active orientation to work role (Sprietzer 1995). This means that individuals would enjoy doing their jobs and show respect in their roles in the industry. However, it is not clear that trust would be the outcome of this positive work role although many literature have stated that trust and empowerment have to co-exist to have expected outcomes.

Ethical Principles and Empowerment

There are two aspects of ethics in empowerment if negative consequences are to be avoided and morally appropriate behaviours are to be manifested (Grandz and Bird 1996). Firstly, it is expressed in the practice of ethical behavior. Researchers have long identified that people are inclined to engage in unethical behavior when the temptation is high (Mill 1958), and it is always difficult to distinguish whether it is an honourable behavior as against those prohibited by law such as corruption, fraud, and bribery (Barreus

and Near 1991). A laboratory research by Hegarty and Sims (1978, 1979) indicates that frequency of unethical behavior increases when unethical behavior is rewarded. A more complex understanding about ethical behavior emerged in recent literature. Bhide and Stevenson (1990) suggested that the popular claim of that ethical behaviors pays off is primarily anecdotal. But people may choose not to forgo benefits of cheating for the internal reward of being honest. Research by Mazar, Amir and Ariely (2008) suggested that although people generally are inclined to partake in unethical behavior for benefits when given the opportunities, they also have a tendency to maintain positive perception of themselves. Further, literature suggests that interventions such as corporate ethics policy also have the effect of ameliorating unethical behavior. When ethical goal is stated via practices, participants tend to behave more ethically. The research study by Shu and Bazerman (2009) suggests that affirming one's agreement to moral standards via actions such as signing to principles make one more aware of moral standards and less inclined to cheat.

The second aspect about ethics in empowerment is the psychological dimension. Bandura (2000) suggested that empowered workers experience positive psychology of work via autonomy and self-efficacy. In contrast, job stress, dissatisfaction, depression, and fatigue give rise to negative feelings (Kanungo, 1982; Yoon, 2001). Taking empowerment as a social process, workers would not exchange their time and effort merely for the means of financial rewards, and this is especially true for knowledge workers. In recognizing the moral dimension of empowerment, Kanungo (1982, 1992) raised the question of the motive for empowerment in the workplace, whether a system is to be designed to control or to influence workers.

Construction Industry

In the study of control mechanisms in Hong Kong construction workers, Tuuli, Rowlinson, and Koh (2010) suggested that certain characteristics of the project setting make it an ideal climate for the empowerment of individuals and teams when control is viewed as all devices and systems employed to ensure that acts, behaviors, outcomes and decisions of individuals, teams and organizations are consistent with meeting organizational or project goals, objectives and strategies. Their findings indicate that a portfolio of control modes is implemented in project teams comprising both formal (i.e. behavior- and outcome-based) and informal (i.e. clan- and self-based)

control mechanisms that are not necessarily incompatible. In another study of the construction industry, Cheng and Li (2006) perceived an individual's job performance to be interdependent to project performance and suggested job performance to be an indicator for project performance. The implication of ethical principles on the individual's job performance is therefore significant as a self-control mechanism to enhance the empowerment profile of the working teams.

The practices of cost, design, and construction in the construction industry have changed significantly over the past century. In terms of the design function for example, Gutman's (1988) analysis of architectural practice suggested that firms have expanded services to interior design for financial concern and to reduce the financial risk of pure architectural services. This indicates that due to commercial pressures, firms provide professional services covering different aspects of the job or projects that only a team of experts can do. Construction companies, for example, may hire design professionals including architects and engineers to expand design consultancy services. They may also contract out design services to smaller design firms which in turn report to the contractors instead of directly to the owner. As construction management has become more commonplace, owners may also outsource the role of owner representative or use in-house expertise (Gutman 1988). The multiparty decision-making increases the complexity of mutual dependency, and hence the complexity of decision-making (Kleindorfer 2001). The functional teams for design, cost and construction also have different values and are affected by the ethical codes provided by the specific professional organizations they belong to.

The Research Study

Method

A questionnaire survey approach is adopted for this study. The questionnaire comprises questions consisting of ordinal scale to differentiate the job functions of three different working teams of the construction industry. The questionnaire also measures five variables on a seven-point Likert-scale from "strongly disagree" to "strongly agree" measuring job attitudes towards ethical principles and a four sub-item scale measuring psychological empowerment. The basic criterion for selecting the sample of respondents is that the respondents have to

be working in the construction industry or have experience working in the construction industry. The questionnaire was first administered to institutional members via professional institutions through their web network and then to individuals via the graduate network. Reliability of the scales is tested through factor analysis. The sampling process took place from October 2009 to August 2010 using both online and paper surveys. Size of the overall dataset is 138 of which 63 are in the cost subset, 37 in the design subset, and 38 in construction subset.

Measures

Four factors are used for the empowerment profile and five factors for the ethical principles. The measurement scales of Spreitzer and Quinn (2001) measure individual empowerment in the workplace - competence, impact, meaningfulness and self-determination.

Competence refers to the knowledge and skills of the workers required to accomplish one's tasks.

Meaningfulness refers to an individuals' "sense of purpose" in what one does (Spreitzer 2004, Spreitzer and Mishra 1998), and has a personal connection to the work.

Self-determination is included because it infers one cares about what the team does and have a belief that the tasks undertaken by the team are valuable, significant and purposeful (Kirkman & Rosen 1999).

Impact refers to an individual's belief that one could make a positive influence (Ashforth 1989, cited in Spreitzer 2007)

The measurement scales of ethical principles are factors categorized under the five terms used in the codes of conduct of the Royal Institutions of Chartered Surveyors, and have been adapted for a general application for professional work covering that of cost, design and construction. The factors are proportionality, consistency, accountability, targeting and transparency. The items of the factors are selected from the item list from the Job Diagnostic Survey used by Hackman & Oldham (1976, 1983).

Discussions and Analysis of Empowerment Profile of the Working Team Members

1) Preliminary Analyses

Preliminary analyses are performed to compare the empowerment profiles of the cost, design and construction working teams with the absolute scores

as well as the percentile ranking. The factors are also validated through reliability test (Cronbach's alpha > 0.7). The percentile ranks are based on Spreitzer and Quinn's (2001) empowerment percentile scores compiled from the existing literature.

TABLE 1 CORRELATION MATRIX of EMPOWERMENT PROFILE

| Item | Mean | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| M1 | 5.16 | 1 | | | | | | | | | | | |
| M2 | 4.92 | .718 | 1 | | | | | | | | | | |
| M3 | 5.05 | .681 | .627 | 1 | | | | | | | | | |
| C1 | 5.57 | .732 | .655 | .590 | 1 | | | | | | | | |
| C2 | 4.65 | .579 | .411 | .563 | .496 | 1 | | | | | | | |
| C3 | 5.60 | .626 | .398 | .380 | .690 | .568 | 1 | | | | | | |
| S1 | 4.29 | .384 | .357 | .610 | .408 | .782 | .440 | 1 | | | | | |
| S2 | 4.70 | .489 | .445 | .694 | .496 | .665 | .473 | .702 | 1 | | | | |
| S3 | 4.93 | .513 | .481 | .721 | .472 | .602 | .458 | .651 | .873 | 1 | | | |
| I1 | 4.03 | .670 | .667 | .555 | .496 | .526 | .364 | .433 | .499 | .484 | 1 | | |
| I2 | 4.47 | .670 | .484 | .481 | .744 | .529 | .856 | .422 | .467 | .517 | .478 | 1 | |
| I3 | 4.08 | .446 | .380 | .519 | .448 | .787 | .517 | .841 | .653 | .593 | .531 | .558 | 1 |

Table 1 shows the correlation matrix of the empowerment dimensions and Table 2 presents the empowerment scores of the overall dataset in mean, standard deviation and percentile. Measured in absolute scores on the 7-point Likert scales, the overall empowerment score of the dataset is 4.86. In the external dimensions, mean scores are 5.17 for meaning and 5.44 for competence; in the internal dimensions, mean scores are 4.90 for self-determination and 3.63 for impact. In the percentile ranking, although the subject scores indicate a relatively positive absolute mean score of 4.86, the rankings of the level of empowerment put the subjects at 35 percentile, and the four dimensional scores are all below the 50 percentile. The findings show that on the external dimensions, the percentile rankings are 25% on competence and 25% on meaning; and in the internal dimensions, the percentile rankings are 30% on self-determination and 35% on impact. The results generally align with existing empowerment literature that Asian workers are more resistant to

empowerment when compared to their western counterparts (Kirkman & Shapiro 2001). To improve on empowerment, it therefore requires interventions on all four dimensions.

TABLE 2 EMPOWERMENT PROFILE by PROFESSIONAL FUNCTION

| | Cost | Design | Construction |
|---------------------------|------|--------|--------------|
| Meaning | 4.69 | 5.23 | 5.12 |
| Competence | 5.12 | 5.00 | 5.53 |
| Self-determination | 4.69 | 4.65 | 5.35 |
| Impact | 3.91 | 4.33 | 4.22 |
| Empowerment | 4.60 | 4.80 | 5.06 |

2) Empowerment Profiles

The empowerment profiles of the working team subsets are examined next. The findings indicate that the participants in the construction subgroups are relatively more empowered than the design and cost counterparts (See Table 2). ANOVA was conducted on all twelve items of the empowerment profile but no statistical differences are found among the 3 functional working teams on their level of empowerment. The findings of the subgroups are discussed below:

The members in the cost function subset (the costing team members) serve as economic gatekeepers of construction project. The overall empowerment score is 4.60. In the external dimensions, mean scores are 4.69 for meaning and 5.12 for competence; in the internal dimensions, mean scores are 4.69 for self-determination and 3.91 for impact. The scores of three dimensions are below the means of the overall dataset except those of impact. When measured in the percentile ranking described before, the empowerment score of 4.60 ranks at the 15 percentile.

The members in the design function subset (the design team members) provide the vision and determine systems of the construction projects. Their overall empowerment score is 4.80. In the external dimensions, mean scores are 5.23 for meaning and 5.00 for competence; in the internal dimensions, mean scores are 4.69 for self-determination and 3.91 for impact. The scores are higher than the overall means for the 'meaning' and 'impact' dimensions, but lower than the overall means for the competence and self-determination dimensions. When measured in the percentile ranking, the empowerment score of 4.80 ranks at 20 percentile.

Function of the construction professionals is to realize construction projects. The standard of care in this group is to deliver the construction in conformance to construction documents. Their overall empowerment score is 5.06, which is the highest among the three subsets. In the external dimensions, mean scores are 5.12 for meaning and 5.53 for competence; in the internal dimensions, mean scores are 5.35 for self-determination and 4.22 for impact. The scores for all four dimensions of this group are above the means of the overall dataset. The empowerment score of 5.06 ranks at 35 percentile. In the external dimensions, the percentile rankings are 40% for competence and 45% for self-determination. In the internal dimensions, the percentile rankings are 25% for meaning and 35% for impact. Although the scores of the construction subset are the highest among the three subsets, neither the overall empowerment scores nor the dimensional scores exceed the 50 percentile.

The three work groups all scored highest on 'competence' in terms of absolute scores ($x = 5.20$) and lowest on 'impact' ($x = 4.15$). The higher score however should not be misinterpreted as high-level competence. In work organizations, workers generally should have developed some kind of competence on the job or they should have figured out a survival niche in the organization or have already moved on (Spreitzer & Quinn 2001). Further, in each of the job function in the construction industry, competence is a prerequisite for one's professional identity (AIA 2007, ASHRAE 2010, RICS 2007). However, the scores in the three job functions are consistent with the general findings (Spreitzer & Quinn 2001) that subjects having high score in competence but low scores in impact. This difference in dimensional scores indicates that subjects are mostly comfortable with their skills and knowledge, but the application of their competence does not contribute to the larger organizational goal. From the perspective of the organizational hierarchy, the knowledge workers may find it safer simply to follow the command-and-control management, and this does not require initiative to act. The comfort is that without actually making decision, one could avoid accountability and being blamed when effort failed. Respondents might have found that their competence in context is developed by doing the same thing over and over again without stretching themselves far enough to learn new skills or putting themselves in an

unfamiliar and uncomfortable situation as suggested by Spreitzer and Quinn (2001).

TABLE 3 EMPOWERMENT ITEM SCORES by PROFESSIONAL FUNCTIONS

| | Cost | Design | Construction |
|---------------------------|------|--------|--------------|
| Meaning | 4.84 | 5.48 | 5.11 |
| | 4.5 | 5.13 | 5.00 |
| | 4.65 | 5.09 | 5.26 |
| Competence | 5.50 | 5.61 | 5.63 |
| | 4.67 | 3.81 | 5.15 |
| | 5.20 | 5.59 | 5.80 |
| Self-determination | 4.84 | 5.00 | 5.71 |
| | 4.55 | 4.43 | .97 |
| | 4.68 | 4.52 | 5.36 |
| Impact | 3.70 | 3.78 | 4.37 |
| | 3.82 | 5.00 | 4.37 |
| | .22 | 4.22 | 3.91 |

Although our research is based on the individuals, a collective impact in inter- or intra-team environment can be considered as an extension of the individuals. In the dimension of competence, Spreitzer & Quinn (2001) remark that professionals should have entry-level skills and knowledge should they stay in the profession, what is not known is whether the professional has the capability of transitioning themselves to new knowledge and technology, or meeting new demands from the changing market, society, and regulation (NIST 2009). However, according to the findings, it is clear that the construction personnel are better empowered in every respect than the other two subgroups. The design personnel find meaning in their job and understand that their job have impact, and the cost personnel find adequate competence and relatively high impact, but do not find much meaningfulness in their job. The empowerment profiles of the three subgroups are not significantly different, but there is statistical difference in one item based on the ANOVA results. In the impact dimension, the job functions of cost, design and construction are correlated within the item "The work that I do is important to me," which was originated from the task significant measurement of Hackman and Oldham's (1983) Job Diagnostic Survey, from which it was adopted in the impact dimension of Spreitzer and Quinn's (2001) psychological empowerment scales. We infer that the psychological

effect of empowerment varies with the level of importance of the job to the individual because of their 'profession'.

Discussions and Analysis of the Ethical Factors and Empowerment

The objective of the second stage analysis is to explore the differences among the three subsets of knowledge workers in the construction industry in respect of the ethical principles advocated by professional institutes that empower the professionals. Five factors are used for the ethical principles under the headings of 'Proportionality', 'Consistency', 'Accountability', 'Targeting' and 'Transparency'. We conducted ANOVA ($p < .05$, $df = 2$) and found statistical differences in four out of the twenty-two items on ethical principles (not including trust and integrity). The differences include three proportionality items and one consistency item. The items on transparency, accountability and targeting did not show differences among the subset, but the scales of transparency are dropped due to low validity (Cronbach's alpha below 0.7). The following subsections explain our data analysis of each principle. In each principle, the definition and its implication on empowerment are examined, and the statistical findings are discussed.

TABLE 4 RELIABILITY STATISTICS of ETHICS PRINCIPLES, INTEGRITY and TRUST RELIABILITY STATISTICS

| Group | Cronbach's alpha | Cronbach's alpha based on standardized items | Number of items |
|-------------------|------------------|--|-----------------|
| Proportionality | .753 | .762 | 6 |
| Consistency | .774 | .789 | 6 |
| Targeting | .894 | .897 | 4 |
| Accountability | .791 | .792 | 5 |
| Transparency | .518 | .520 | 2 |
| Integrity & Trust | .744 | .756 | 8 |

1) Proportionality

Proportionality refers to the appropriateness of resource distribution and has a mathematical underpinning in equity that what one could take should be proportionate to what one could contribute. At the individual level, the task should be proportional to the professional's competence so as not to waste the human capital, as workers are more empowered when they could have an impact (Hackman & Oldham 1983, Spreitzer & Quinn 2001). At the organizational level, reward aligned with the

principle of proportionality is less dependent on seniority as in a hierarchical organization. Workers should be rewarded in accordance with one's task significance, contribution, and competence (Spreitzer & Quinn 2001).

Inferred from literature review, we developed six scales in our survey to measure proportionality of human capital and financial reward. ANOVA results (Table 4) revealed differences on three of the six scales. The first and second of these differentiated scales were derived from the cross-function context with stakeholders including clients, users, contractors, consultants, and suppliers (NIST 2009), taking example of other industries that not only team members may need information from the team and the organization, one may also need information from outside the organization to proceed with the work. At times, the knowledge worker is only facilitating information flow without decision-making power in and out of one's organization, and the work relation with stakeholders both in and out of one's own organization contributes to one's context satisfaction (Hackman & Oldham 1983, 104). Furthermore, team members may receive instruction from one team, require information from another, and be judged by yet another entity on the job outcome. From our ANOVA results and frequency data, the construction group shows higher involvement in both inter-team ($x = 4.86$) and intra-team decision-making ($x = 4.83$). This group most frequently receives instruction from one's supervisor ($x=29$) and oneself ($x=27$), work closely with client representatives, and being held accountable by client satisfaction ($n = 29$). The proportionality or inter- and intra-team decision-making is less proportional for the cost group, with inter-team involvement ($x = 3.88$) and in intra-team involvement ($x = 4.13$), leading to a relatively low involvement status at inter-team level.

The third statistically different scale measures how subjects perceive the fairness of financial reward. Since we are interested in the perception of proportionality rather than the actual salary, we did not collect monetary data. From the ANOVA results, we found the construction group mostly contented with the proportionality between financial reward and contribution ($x = 4.27$), compared to the mean scores 3.80 for the design group and 3.41 for the cost group. We are interested in the perception of reward proportionality because of the potential tensions. At the individual level, intrinsically motivated workers

are motivated by more than financial reward on a job well-done (Hertzberg 1964; deCharms 1968; Deci 1971; Cioffi & Garner 1996; Hackman & Oldham 1983), although research shows that intrinsic motivation could be negatively affected by increased extrinsic reward (Deci 1971). In the organizational context, financial reward is more likely to be proportional to competence and contribution, rather than seniority or relation. On the other hand, if workers are unsecure about their job or doubtful about company resources, they are less likely to deviate from standards if job security or company resource is in doubt (Spreitzer & Quinn, 2001, 111). Insecure workers thus avoid initiatives and risks that may otherwise positively influence the organization (Spreitzer & Quinn 2001). We then correlated the proportionality data with the frequency data on motivation, no significant difference is found for the correlation of the motivational factors with the different work groups. Although personal interest ranks as the highest-frequency motivation factors in both design group ($n/N = 22/25$) and construction group ($n/N = 22/44$), the design group chose self-fulfillment ($n/N = 13/25$) as the second highest motivation whereas the construction subset chose just-a-job ($n/N = 16/44$). For the cost group, just-a-job ($n/N = 14/26$) and money ($n/N = 10/14$) are the two highest frequency motivating factors. This however indicates that the cost, design and construction groups are motivated by different factors. This just-a-job attitude may be the prime reason for some knowledge workers lacking internal drive. The question is that the knowledge workers require certain kind of 'drive' in the system to stimulate performance and not just another job accomplished.

2) Consistency

Consistency refers to the alignment of "plans, processes, information, resource decisions, actions, results, and analysis" in support of "key organization-wide goals" (NIST 2009). Effective alignment requires a common understanding of purposes and goals and the use of complementary measures and information for planning, tracking, analysis, and improvement at three levels: the organizational level, the key process level, and the work unit level (NIST 2009). Consistency does not judge whether a goal is ethical but is based on whether activities purport to achieve the stated goal (Dobson 2003). More often, making a claim is mistaken as having the action (Pfeffer & Sutton 2000). As a principle, consistency is related to empowerment in aligning positive actions with the claim of ethical

standard. Given the assertion on ethical codes in the construction industry, consistency means that individuals and organizations need to act ethically in accordance to the claim.

Questions are thus set at these three levels. At the individual level, it involves applying one's skills and knowledge and the continual development of skills demonstrating one's standard of care, whereas one is able to take a stand despite the collectivism issue (RICS 2010, AIA 2007). At the process level, it is hypothesized that empowered individuals have the self-efficacy to act ethically in consistence with the professional standard of care despite the low ethical level in the local business environment. At the work unit level, an empowering organization would provide resources to accomplish tasks as professed objectives (NIST 2009).

Our ANOVA results found statistical difference in one of the six items on consistency. In the scale "Most of the time I have sufficient resources to complete my task," we measured the perception of resource availability in general, which may include time, budget, human resources, production tools, growth opportunity or expertise. Time, in particular, is referred to as a scarce resource as professionals strive to control quality of their work (Gardner 2007). Frivolous tasks, though keep one busy, may have detrimental effect to one's sense of significance (Hall & Lawler 1970). In measuring whether one receives sufficient resources to complete tasks, the construction group ($x = 4.35$) perceive sufficient resources whereas the design group is the least likely ($x = 4.60$). The cost group is in the middle ($x = 4.35$, sig. = 0.42). The item measures resource from one's immediate organization because it is more immediate and has more direct influence on the individuals and logically, should be offering its workers necessary resource to complete work. In two other items on consistency items, we measured to what extent one depends on information from colleagues within and outside one's organization. All three groups responded the flow of information more necessary within groups rather than between outside groups, even though there is no statistical difference for the responses of the design group that there is high dependence on information from both inside and outside parties.

Through correlation with frequency data, we found the three groups differed on the consistency between the perceived dependence on information flow in inter- and intra-team environment. In the ethical

dimension of consistency, the design group is less empowered than the cost and construction subsets. Perception of having sufficient resources within one's organization to complete tasks is also relatively low. Among the three groups, the perception of insufficient information is highest in the design subset ($x = 3.89$), compared to mean perception at 4.35 for the cost subset and 4.60 for the construction subset, at 0.42 significance level ($F=3.235$). Although delegation is a commonly associated with empowerment in general literature, the management tactic is not equivalent to empowerment. Empowerment is not only by assigning the task, but by enabling the recipient to achieve via sharing of power (Spreitzer & Quinn 2007). On the recipient's end, the subordinate achieve by being autonomous and by taking control of one's behavior (Argyris 1954, cited in Kanungo 1992, 415). We also found the three groups differed on consistency between parties assigning works and the parties one works with. Although the three groups ultimately are responsible to the client, the collaborating parties and the instructing parties may differ. Decision-making further complicated such as in organizational projects, there may be multiple representatives on the client sides. Sources of instruction and decision-making may not be clear-cut (Gutman 1988, 15). From the frequency data, all three groups receive instructions most frequently from one's supervisors, with mean frequencies of 17 for the cost group, 20 for the design group, and 29 for the construction group. But the construction group receives assignment from oneself ($x = 27$) almost as frequently as from one's supervisor ($x = 29$). The cost group works most frequently with one's supervisor ($x = 13$) and client representative ($x = 8$). The design subsets similarly work most frequently with one's supervisor ($x = 13$) and fellow team members ($x = 11$). Although the construction subsets work most closely with client representatives ($x = 21$) and supervisors ($x = 16$), the groups also works close with one's fellow team member ($x = 15$). Although it would be spurious to conclude that proximity to feedback directly linked to higher empowerment in the impact dimension, this is a factor to be considered in the association between the impact score and the work relation.

3) Accountability

In the construction industry as in other professions, an individual's role in an organization dictates to whom one manages for and in what ways one is held accountable (Fewings 2009). Although the layers of responsibilities may at times create ethical dilemma, it

is up to the professional has the ethical responsibility to determine to whom one is responsible for beyond immediate contractual obligation (Gardner 2007). Despite ethical complexity, an empowered individual would choose to utilize one's skills and knowledge to exert positive influence and find meaning in the process. An ethical professional will also consider the wider social implication of their practice to the community and via one's relation to others at work (RICS 2010, Jones 1983, ASHRAE 2010, AIA 2007).

In our survey, four items measure accountability. Two of the items measure one's perception of the context whether team members are held accountable and whether team performance fulfill client expectation. The ANOVA results did not show statistical difference and are "neutral" on whether team members are held accountable based on competence. Mean scores is 5.14 for the construction group, 4.83 for the design group and 4.93 for the cost group. Though of no statistical difference ($\text{sig.} = 0.05$), the construction subgroup is highest on whether the team fulfill clients requirement ($x = 5.21$), compared to 4.93 for the cost and 4.92 design. The two other items measure self-perception of whether one practices in compliance with legal standards and whether one practices according to ethical standards. The mean scores are generally on the high side, signifying the direction of responsibility as perceived by the respondents. The construction group "somewhat agree" for being held accountable for meeting legal standards ($x = 5.67$). The design group group "somewhat agree" for being held accountable for ethical standards ($x = 5.73$).

4) Targeting

Targeting refers to the level of performance one intends to attain, such as the standard of care requiring of the construction professional (NIST 2009). For example, the standard of care in architecture is defined as "what a generally prudent architect would have done in the same community and in the same timeframe, given the same amount of facts and circumstances" (Jones 2002). The contractor's standard of care is quite different from that of the architect's. The contractor is contractually obligated to conform to the construction document. Unlike the architect who only provides services but does not guarantee perfection of the result, the contractor guarantees conformance with construction document. The obligation to conformance is unchanged even when the document calls for quality higher than the industry standard or higher than the contractor's own

competence (Jones 2002). Professional obligation includes one's standard of care as understood in the industry. Institutional organizations in the construction industry normally include the obligation in their codes of conduct. For example, numerous codes of ethics univocally advocate that professionals ranging from surveyors, architects, engineers do have social obligations via their professional activities (AIA 2007, ASHRAE 2010, RICS 2007).

Targeting is related to empowerment that it sets the level of positive performance one intends to achieve. It is related to the competence dimension of empowerment that one continually acquires new skills and knowledge. It is related to the impact dimension that one can make a positive influence as one desire to achieve. It is related to the self-determination dimension that one sets higher standard and sets out to achieve it, instead of being complacent in the status quo. It is related to the meaning dimension that one sets targets aligning one's values and principles.

In our survey, four items measure subjects' perception of targeting at four levels – work unit, team membership, legal, and ethical. The mean scores are generally high in all sub-items and in the three different work groups. This indicates that the respondents are clear about what is actually expected from them in different aspects. Data generally suggest knowing-doing gap between the perception of ethical ideals and empowerment in the three work groups (Table 2.4). In the competence dimension of empowerment, the subjects are generally in the 25 percentile. Subjects may have the basic competence for employment, but it is questionable to what extent the continual improvement is to meet the goal of high performance, characterized by knowledge-sharing, information-sharing and adaptive to changes (NIST 2009). Furthermore, empowerment dimensional scores on impact and self-determinedness show a lack of self-efficacy of being in control of using the skills and knowledge for higher ethical standards.

Although subjects generally perceive themselves with high targeting standard, the scales in accountability see less favorable in intra-team context whether team members are being held accountable based on their competence; and intra-team context, whether the performance meet client expectation. As demonstrated in the empowerment dimensions on impact ($\bar{x} = 4.15$, 35%), individuals may have high ideals, but they lack

the self-determination to act ($\bar{x} = 4.90$, 30%). Furthermore, the resulting scales on the principles proportionality and consistency also suggest that workers may not perceive themselves as having sufficient decision-making power, with the cost group exhibiting the lowest mean scores of 4.13 within team and 3.88 outside team.

5) Transparency

Kanter (1977) referred to information as the primary power tool. As an ethical principle, "transparency" refers to the duty of not withholding information without valid reasons and not exploiting others for one's own benefits, and rationally explaining mutually beneficial solution (Fewings 2009). Information in the construction industry varies in formats, including idea, drawings, report, data, electronic files or contracts (AIA Knowledge Team 2007). Given the multi-party work environment in the construction industry, conflict of interest is common as individuals often have obligations to more than one party in addition to the usual clash of private and commercial interests (Fewings 2009). On one hand, the professional personnel should be contractually bound not to disclose information that is intellectual property to outside parties. On the other hand, the professionals must also exercise judgment to share information so that relevant parties have the information to perform work. Common situations calling for transparency include: when problems become too costly, when any parties disclose interest, or when parties agree to bear cost of changes even when such agreement is informal (Mow 2007, Jones 2002). In practice, transparency requires sound judgment, in which parties should not unnecessarily withhold information and yet adequately respect confidentiality. Two items in our survey measure transparency. These two subscales however were found to have low validity ($\text{sig} = 0.05$). We recommend the scales of transparency be further developed in future studies. The two scales were dropped in the factor analysis due to the reliability test with respect to the Cronbach's Alpha less than 0.7. However, the mean scores infer that the construction group would be less likely disclosing conflict of interest but is more prepared to work with the conflict if there is mutual benefit. On the issue of open information or sharing information, there can be a cultural effect on this principle; whereas *transparency* may also be affected public accountability and

discretion of the management in private practice.

6) Integrity and Trust

As trust and integrity are considered to have enabling effects on empowerment, empowerment is hypothesized also to have an effect on knowledge workers like that of ethical principles. *Integrity* is commonly understood as honesty, and sometimes used synonymously with 'moral'. Halfon (1989) describes persons of integrity would pursue a commitment to do what is the best with relevant moral considerations. It concerns perceived consistency of actions, values, methods, measures, principles, expectations and outcomes; and ethical meanings of integrity refer to the wholeness of human qualities. Questions on integrity are based on the psychological test devised by Van Minden (2005) on dishonest and deviant behavior. *Trust* implies work according to rules and the sub-items are set on this basis. There are 8 sub-items under Q47-Q54 but Q49 is problematic in the analysis and is excluded after the reliability test to improve the Cronbach's alpha from 0.744 to 0.774.

Analysis and Discussion of the Relationship between Empowerment and Ethical Factors

Statistical correlation test is run for the ethical factors and the empowerment profiles comprising of different sub-items after all factors have been validated. There is no relationship between individual empowerment factors and individual ethical factors, but correlation is found when all empowerment factors are considered together. The findings indicate that 'proportionality', 'consistency' and 'targeting' are generally correlated to the overall empowerment profile at the significance level of 0.001, whereas 'accountability' is not related to overall empowerment profile. The term 'generally correlated' is used here because these factors are relevant only when the attributes concerning financial reward ("rewarded financially in accordance to my contribution to the company" under 'proportionality') and available information and resources (sufficient information and resources from my company to accomplish my tasks" under 'consistency') are not considered in the analysis. The explanation we can gather is that is that financial reward is irrelevant for 'doing well' at individual level; and available information and resources are restricted in work situations and are taken as constraints for empowerment. It is further noted that the sub-items of the empowerment profile of 'competence' and

'meaning' are more empathized than those of 'self-determination' and 'impact' in the cases. Thus it is reasonable to state that 'proportionality', 'consistency' and 'targeting' are generally correlated to the overall empowerment profile. For the factor 'accountability', it appears that 'accountability' is considered by the respondents as a kind of duty and not an motivating factor for meaningful work; and is relevant only when the persons find a duty to perform and a standard to be recognized by the society. However, this poses a question of the different levels of standards acceptable by law, viewed by institutions and by the society.

The sub-items assigned for the trust and integrity factor are validated by a Cronbach's alpha of 0.744, which is above 0.6. A correlation is found between the trust factor and the empowerment profile at a significance level of 0.05. However, it can be seen in Table 5 that the trust items (Q45, Q46, Q47) are more or less the same for the different functional groups. The implication is that trust is generally universal among members of the working teams but their ethical standards may differ because of their work context. Seemingly cost personnel trust less of other people due to the nature of their work, design personnel is in the mid-range whereas the construction personnel appears to be relatively better in this stance. This raises a concern that the functional groups are motivated by different factors and would therefore be empowered by different factors, and we should not disregard intrinsic values for the functional groups.

TABLE 5 RELATIONSHIPS between INTEGRITY & TRUST and EMPOERMENT

| | Meani ng | Compet ence | Self- Deter- mination | Impact |
|---|-------------|----------------|-----------------------------|--------|
| Factor 1 for Integrity and trust | | | | |
| Pearson Correlation | .324** | .393** | .301** | .198 |
| Sig. (2-tailed) | .003 | .000 | .006 | .076 |
| N | 81 | 81 | 81 | 81 |
| Factor 2 for Integrity and trust | | | | |
| Pearson Correlation | .381** | .423** | .223* | .076 |
| Sig. (2-tailed) | .000 | .000 | .045 | .501 |
| N | 81 | 81 | 81 | 81 |

A re-run of the factor analysis is made for the empowerment without prescription to test its validity. Using principal axis extracting method and Varimax with Kaiser normalization in three iterations, two

factors emerged (see Table 6). This verifies the presence of internal and the external dimensions of the empowerment profile for which there is a disposition for internal empowerment in the Hong Kong case, except for the sub-item of “ I have significant autonomy in determining how I do my job”.

TABLE 6 ROTATED COMPONENT MATRIX^a RE-TEST for a FREE RUN for EMPOWERMENT PROFILE

| | Component | | | Component | |
|-----|-----------|------|-----|-----------|------|
| | 1 | 2 | | 1 | 2 |
| Q62 | .892 | .252 | Q68 | .077 | .921 |
| Q63 | .820 | .215 | Q69 | .354 | .795 |
| Q64 | .636 | .527 | Q70 | .399 | .750 |
| Q65 | .859 | .173 | Q71 | .767 | .339 |
| Q66 | .353 | .798 | | .823 | .263 |
| Q67 | .766 | .286 | | .229 | .825 |

Limitation

Limitations are identified in different areas. First of all, our data only supported the theory in general terms. For instance in the consistency items in which statistical differences are identified, further investigation is required to direct us to study the kind of constraints the professionals are facing (Gardner, 2007, p.5). Secondly, in this research, we used information as a primary power tool (Kanter, 1983) but organizational power may take other forms such as support staff, tools, or expertise. Thirdly, the findings may point to the issue that ethical factors are acting as moderators and the context may be insufficient to provide a conclusive relation between the two.

Fourth, this research does not account for the performance issues or link empowerment outcomes such as job satisfaction. Fifth, the scope of the research is limited to validating the empowerment profiles and ethical principles in a primarily collectivist culture without direct comparison to an individualistic culture. Sixth, this research explores empowerment with respect to three job functions. Future research may study other variables such as project phases, building types, or hierarchy of professionals. Seventh, this research compared the professionals based on the three functions without addressing other job characteristics such as level of experiences, task complexity, or task significance which cannot be disregarded in studying the relationships among cross-functional working teams.

Conclusion

This study has attempted to draw relationships

between ethical principles based on job characteristics and empowerment with respect to the three job functions of cost, design and construction. The findings review that these ethical principles based on job characteristics are validated and thus being accepted as factors moderating individual empowerment. Although there is no indication how these principles are related to the empowerment process as whether it helps removing organizational obstacles, creating expectancy on ethical behavior, building subordinates' self-efficacy, or helping the subordinates persist in ethical behavior, this however helps to infer that ethics code may help the subordinate experience empowerment via the form of “performance expectancy or the belief in personal efficacy” for better professional ethics.

The findings suggest that there is inter-relationship between trust and empowerment whereas the design and costing personnel are relatively less empowered than the construction personnel. In addition, the overall low empowerment profile calls our attention for further investigation of what affects the project participants. Furthermore, such powerlessness concern has also been advocated as one problematic issue even in successful partnering and other collaborative practices (Ng et al. 2002). In the Guidelines on Partnering (CIC, 2010:p.17), it also states that enthusiasm and momentum for project partnering may easily be lost during the later part of the project when work procedures become routine and more claims and delays are accumulated. Therefore, other aspects impacting the project environment such as formal and informal control, trust and empowerment expectations of the managers and the members need to be explored, as inadequately empowered and wrongly trusted situations may lead to unpleasant results and undesirable performances.

In conclusion, our study suggests that in a cross-functional industry, knowledge workers in different job functions exhibit different empowerment profile because of the job characteristics. Since the overall empowerment profile do not exceed the 50% percentile, there requires further investigation about what would appropriately empower the construction working teams. Thus, to improve on empowerment, interventions need to be directed to all four dimensions. It is reckoned that the just-a-job attitude may have been the prime reason for the lack of

internal drive for most knowledge workers. The question is what and how to inject the right kind of 'drive' in the system to stimulate high performance.

ACKNOWLEDGMENT

The work described in this paper was substantially supported by a grant from the Division of Building Science & Technology, City University of Hong Kong.

REFERENCE

- Abott, Andrew. "Professional ethics." *The American Journal of Sociology* 88, no. 5 (1983): 855-885.
- American Institute of Architects. *Code of Professional Conduct*. Washington, D.C. : American Institute of Architects, 2007. Retrieved at <http://www.aia.org>
- American Society of Heating Refrigerating and Air-Conditioning Engineers. *New Ethics Code, Plus Enforcement*, 2010. Atlanta, GA: ASHRAE. Retrieved at <http://www.ashrae.org>
- Argyris, Chris. "The fusion of an individual with the organization." *American Sociological Review* 19, no. 3 (1954): 267-272.
- Ashforth, Blake E. "The experience of powerlessness in organizations." *Organizational Behavior and Human Decision Processes* 43 (1989): 207-242.
- Bandura, Albert. "Human agency in social cognitive theory." *American Psychologist* 44 (1989): 1175-1184.
- Bandura, Albert. "Exercise of human agency through collective efficacy." *Current Directions in Psychological Science* 9, no. 3 (2000): 75-78.
- Cavanagh, Gerald F. "Global business ethics: regulation, code, or self-restraint." *Business Ethics Quarterly* 14, no. 4 (2004): 625-642
- Chalkley, Richard. *Professional Conduct*, 2nd edition. The Royal Institution of Chartered Surveyors, 1990.
- Cheng, Eddie and Heng Li. "Job Performance Evaluation for Construction Companies: An Analytic Network Process Approach." *J. Constr. Eng. Manage.* 132 no.8 (2006): 827-835. doi:10.1061/(ASCE)0733-9364(2006)132:8(827)
- Cioffi, Delia and Garner, Randy. "On doing the decision: Effects of active versus passive choice on commitment and self-perception." *Perspective of Social Psychology Bulletin* 22, no. 2 (1996): 133-147.
- Conger, Jay A. "Leadership: The art of empowering others." *The Academy of Management Executive* 3, no. 1 (1989): 17-24.
- Conger, Jay A. and Kanungo, Rabindra. "The empowerment process: integrating theory and practice." *Academy of Management Review* 13 (1988): 471-482.
- Construction Industry Council. *Guidelines on Partnering, Hong Kong*, 2010. <http://www.hkcic.org>
- Davidson, Paul and Griffin, Ricky W. *Management: Australia in a Global Context*. Wiley, Brisbane: Wiley, 2000.
- DeCharms, Richard. *Personal Causation: The Internal Affective Determinants of Behavior*. New York: Academic Press, 1968.
- Deci, Edward L. "Effects of externally mediated rewards on intrinsic motivation." *Journal of Personality and Social Psychology*, 18, no. 1 (1971): 105-115.
- Dobson, John. Why ethics code don't work. *Financial Analysts Journal* 59, no. 6 (2003): 29-34. <http://www.cfainstitute.org>
- Ethical Investment Research Services. *Corporate Codes of Business Ethics: An International Survey of Bribery and Ethical Standards in Companies*, 2005. <http://www.eiris.org>
- Fewings, Pew. *Ethics for the Built Environment*. London: Routledge, 2009.
- French, John R.P. and Bertram Raven. "The bases of social power." In *Studies in Social Power* edited by Cartwright, D. et al. Ann Arbor, Michigan: Institute for Social Research, 1959.
- Gardner, Howard, ed. *Responsibility at Work: How Leading Professionals Act (Or Don't Act) Responsibly*. New York: Jossey-Bass, New York, 2007.
- Giddens, Anthony. *The Constitution of Society*. Cambridge: Polity Press, 1984.
- Grandz, Jerry and Bird, Frederick G. "The Ethics of Empowerment." *Journal of Business Ethics* 15, no. 4 (1996): 383-392.
- Gutman, Robert. *Architectural Practice: A Critical View*. New Jersey: Princeton Architectural Press, 1988.
- Hackman, J. Richard and Oldham, Gary R. Development of the job diagnostic survey. *Journal of Applied Psychology* 60 (1975): 159-170.
- Hackman, J. Richard and Gary R. Oldham. *Work Redesign*. Reading, MA: Addison-Wesley, 1980.

- Hall, Douglas T. and Edward E Lawler. "Job characteristics and job pressures and the organizational integration of professionals." *Administrative Science Quarterly* 15 (1970): 271-281.
- Halfon, Mark S. *Integrity: A philosophical inquiry*. Philadelphia: Temple University Press, Philadelphia, 1989.
- Heider, Fritz. *The Psychology of Interpersonal Relations*. New York: Wiley, 1958.
- Herzberg, Frederick. "The motivation-hygiene concept and problems of manpower." *Personnel Administration* 27 (1964): 3-7.
- Hofstede, Geert. *Culture's Consequences*. Beverly Hills, CA: Sage Publications, 1980.
- International Union of Architects. *UIA Accord on Recommended International Standards of Professionalism in Architectural Practice*, 3rd edition (2006). Accessed at http://www.uia-architectes.org/image/PDF/UIA-Accord%20full_def.pdf
- Jones, Thomas M. "Ethical decision making by individuals in organizations: An issue-contingent model." *The Academy of Management Review* 16, no. 2(1991): 366-395.
- Jones, Joseph H. "Legal dimensions of practice." In *AIA Architect's Handbook of Professional Practice*, 13th edition, 361-371 New York: Wiley, 2002.
- Kanter, Rosabeth Moss. *Men and Women of the Corporation*. New York: Basic Books, 1977.
- Kanter, Rosabeth Moss. *The Change Master*. New York: Free Press, 1983.
- Kanungo, Rabindra N. "Alienation and empowerment: Some ethical imperatives in business." *Journal of Business Ethics* 11, no. 5/6 (1992): 413-422.
- Kirkman, Bradley L. and Debra L. Shapiro. "The impact of cultural values on job satisfaction and organizational commitment in self-managing work teams: The mediating role of employee resistance." *The Academy of Management Journal* 44, no.3 (2001): 557-569.
- Kim, Uichol; Harry C. Triandis, Cigdem Kagitcibasi, Sang Chin Choi, and Gene Yoon, eds. *Individualism and Collectivism: Theory, Method, and Applications*. Thousand Oaks, CA: Sage Publications, 1994.
- Kirkbridge, Paul S, Sara F.Y. Tang, and Robert I. Westwood. Chinese conflict preferences and negotiating behavior: cultural and psychological influences. *Organization Studies* 12 (1991): 365-386.
- Kleindorfer, Paul R. Decision making in complex environments: New tools for a new age. In *Wharton on Making Decisions*, edited by Kohn, S.J. and Kunreuther, H.C. New York: John Wiley & Sons, 2001.
- Lawler, Edward and Shane Thye. "Bringing emotions into social exchange theory." *Annual Review of Sociology* 25 (1999): 217-44.
- Le Jeune, M. and Simon Webley. *Company Use of Codes of Business Conduct*. London: London Institute of Business Ethics, 1988.
- Man, Derek C. and Lam, Simon S.K. "The effects of job complexity and autonomy on cohesiveness in collectivistic and individualistic work groups: A cross-cultural analysis." *Journal of Organizational Behavior* 24, no. 8 (2003): 979-1001.
- Maslow, Abraham. "A theory of human motivation." *Psychological Review* 50, (1943): 370-96.
- Mazar, Nina; Amir, On; and Ariely, Dan. "The dishonesty of honest people: A theory of self-concept maintenance." *Journal of Marketing Research* 45 (2008): 633-634.
- Michael K. Hui, Kevin Au, and Henry Fock. "Empowerment Effects across Cultures." *Journal of International Business Studies* 35, No. 1 (Jan., 2004): 46-60. Doi : <http://www.jstor.org/stable/3875256>
- Mills, D. Quinn. "Asian and American leadership styles: How are they unique?" *HBS Working Knowledge* (2005). Accessed at <http://hbswk.hbs.edu>
- Mills, Petter K., and Ungson, Gerardo R. "Assessing the limits of structural empowerment: Organizational constitution and trust as controls." *The Academy of Management Review* 28, no. 1 (2003): 143-153.
- Mow, Adam T. *AIA Digital Practice Documents*. Accessed at <http://www.aia.org/groups/aia/documents/pdf/aiab078765.pdf>
- Nicholls, Chantell E., Henry W. Lane and Maurico Brehm Brechu. "Taking self managed teams to Mexico." *The Academy of Management Executive* 13, no. 3 (1999): 15-27.
- National Institute of Science and Technology. *2009-2010 Baldrige National Quality Program: Criteria for performance excellence* (2009). Accessed at <http://www.baldrige.nist.gov>

- Ng, S.Thomas, Timothy M. Rose, Michael Mak, and See Eng Chen. "Problematic issues associated with project partnering – the contractor perspective." *Journal of Project Management* 20, no. 6 (2002): 43-449.
- Pfeffer, Jeffrey and Robert I. Sutton. *The Knowing-Doing Gap: How Smart Companies Turn Knowledge Into Action*. Boston: Harvard Business School Press, 2000.
- Quinn, John, J. & Davies, Peter, W.F. ed. *Ethics and Empowerment*, Macmillan Press Ltd, 1999
- Ralston, David A., Gustafson, David J., Cheung, Fanny M., and Terpstra, Robert H. "Differences in managerial values: A study of U.S., Hong Kong and PRC managers." *Journal of International Business Studies* 24, no. 2 (1993): 249-275.
- Randolph, W. Alan and Marshall Sashkin. "Can organizational empowerment work in multinational settings?" *The Academy of Management Executive* 16, no.1 (2002): 102-115.
- Rotter, Julian B. "Generalized expectancies for internal versus external control of reinforcement." *Psychological Monographs: General and Applied* 80 (1966): 1-28.
- Royal Institute of Chartered Surveyors. *Rules of Conduct for Members, Version 4* (2007). Accessed at [http:// www.rics.org](http://www.rics.org)
- Sashkin, Marshall. "Participative management is an ethical imperative." *Organizational Dynamics* (Spring, 1984): 5-22.
- Schwartz, Mark S. "The Nature of the Relationship between Corporate Codes of Ethics and Behaviour." *Journal of Business Ethics* 32, no. 3 (2003): 247-262.
- Shu, Lisa and Max Bazerman. "Dishonest deed, clear conscience: Self-reservation through moral disengagement and motivated forgetting." *Personality and Social Psychology Bulletin* 37, no. 3 (2009): 330-349.
- Snell, Robert S. and Neil C. Herndon. "Hong Kong's code of ethics initiative: Some differences between theory and practice." *Journal of Business Ethics* 51, no. 1 (2003): 75-89.
- The Handbook of Organizational Behavior* edited by Cooper & Barling. Thousand Oaks: Sage Publications, 2007.
- Thomas, Kenneth W. and Betty A. Velthouse. "Cognitive elements of empowerment." *Academy of Management Review* 15 (1990): 666-681.
- Tannenbaum, Andrew S. *Control and Organization*. New York: McGraw Hill, 1968.
- Tjosvold, Dean; Chun Hui, Daniel Z. Ding, and Juchen Hu. "Conflict values and team relationships: Conflict's contribution to team effectiveness and citizenship in China." *Journal of Organizational Behavior* 24, no. 1 (2003): 69-88.
- Tuuli, Martin Morgan, Steve Rowlinson, and Tas Yong Koh. "Dynamics of control in construction project teams." *Construction Management and Economics* 2, no. 28 (2010): 189-202.
- Van Minden, Jack R. *Alles over Psychologische tests*, *Business Contact* (in Dutch, 2005): 206-208. Retrieved from [http://en. wikipedia.org/wiki/intergity](http://en.wikipedia.org/wiki/intergity)
- White, Robert W. "Motivation reconsidered: The concept of competence." *Psychological Review* 66 (1959): 297-323.
- Yoon, Jeongkoo. "The role of structure and motivation for workplace empowerment: The case of Korean employees." *Social Psychology Quarterly* 64, no. 2 (2001): 195-206.